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| APPLICATION NO | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO | CONFIRMATION NO |
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| 10 767,276 | 01 29 2004 | Kern-Hua: Ang | TS02-1330 | 4291 |
| 8933 | 7590 | 05 03 2005 | EXAMINER | |
| DUANE MORRIS, LLP IP DEPARTMENT ONE LIBERTY PLACE PHILADELPHIA, PA 19103-7396 | | | PHAM, THANHHA S | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2813 | |

DATE MAILED: 05 03 2005

Please find below and or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

Applicant(s)

10/767 276

ANG ET AL

Examiner

Art Unit

Tranhha Pham

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 and 42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 and 42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85 a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121, d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1. ☒ Notice of References Cited (PTO-890)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statement(s) (PTO-1449 or PTO-SB 08)
Paper No(s) / Mailing Date 03/29/2005
4. ☐ Interview Summary (PTO-413)
Paper No(s) / Mailing Date _____
5. ☐ Notice of Informal Patent Application (PTO-160)
6. ☐ Other _____

DETAILED ACTION

This Office Action is in response to Applicant's Amendment dated 03/01/2005.

Oath/Declaration

1. Oath/Declaration filed on 01/09/2004 has been considered.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "124" and "80" of figures 11 & 12 have both been used to designate the same layer of HDP oxide. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "conformal oxide layer" overlying said plurality of conductive lines prior to said step of depositing a high

Art Unit: 2813

density plasma (HDP) oxide layer of claim 2 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of informalities.

- Specification page 18, lines 1 and 8, typographical error "the polish stopping layer 80" should be changed to "the polish stopping layer 100"

- Specification page 19, lines 6-8, it is not clear how the second stage of CMP processing can first remove the thin film layer 104 overlying the second polysilicon layer 72 when the thin film 104 is already polished down to the polish stop layer 100 overlying the second planar top surfaces 96 of the HDP oxide layer 80 (see page 17-18 and figure 9 for details)

Appropriate correction is required.

5. **The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter.** See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification must be corrected to support original claim 2 including depositing a conformal oxide layer overlying said plurality of conductive lines prior to said step of depositing a high density plasma (HDP) oxide layer overlying said substrate and said conductive lines.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. **Claims 1-27 and 42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

- With respect to claim 1,

lines 11-12, polishing down said film layer to said polish stopping layer overlying said second planar top surfaces" renders the claim indefinite. It is not clear where "said second planar top surfaces" are located and come from.

lines 13-15, "polishing down said film layer, said polish stopping layer, and said conductive lines to said polish stopping layer overlying said first planar top surfaces to complete said polishing down of said conductive lines" renders the claim indefinite as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted step is polishing down "said high density plasma (HDP) oxide layer". It is not clear how said conductive lines are polished down without polishing said high density plasma (HDP) oxide layer (see figures 9-10 for details) when said high density plasma (HDP) oxide layer still overlying (covering) conductive lines

► With respect to claim 2, It is not clear how said conductive lines are polished down without polishing said "conformal oxide layer overlying said conductive lines being formed prior to said step of depositing high density plasma (HDP) oxide layer.

► With respect to claim 4,

line 6, "pattering" should be changed to "patterning"

► With respect to claim 7,

it is not clear where "said step of sputtering down said HDP oxide layer" comes from.

► With respect to claim 11,

line 5, "first planar surfaces" should be changed to "first planar top surfaces" (see claim 11 line 14 for details)

lines 7-8, "second planar surfaces" should be changed to "second planar top surfaces" (see claim 11 lines 11-12 for details)

lines 13-15, "polishing down said film layer, said polish stopping layer, and said polysilicon lines to said polish stopping layer overlying said first planar top surfaces to complete said polishing down of said polysilicon lines" renders the claim indefinite as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted step is polishing down "said high density plasma (HDP) oxide layer". It is not clear how said polysilicon lines are polished down without polishing said high density plasma (HDP) oxide layer (see figures 9-10 for details) when said high density plasma (HDP) oxide layer still overlying (covering) said polysilicon lines

► With respect to claim 19,

lines 5-6, "first planar surfaces" should be changed to "first planar top surfaces" (see claim 19 line 14 for details)

line 8, "second planar surfaces" should be changed to "second planar top surfaces" (see claim 19 lines 11-12 for details)

lines 13-15, "polishing down said film layer, said polish stopping layer, and said n-type polysilicon lines to said polish stopping layer overlying said first planar top surfaces to complete said polishing down of said n-type polysilicon lines" renders the claim indefinite as being incomplete for omitting essential

steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted step is polishing down "said high density plasma (HDP) oxide layer". It is not clear how said n-type polysilicon lines can be polished down without polishing said high density plasma (HDP) oxide layer (see figures 9-10 for details) when said high density plasma (HDP) oxide layer still overlying (covering) said n-type polysilicon lines.

line 19 "said oxide layer" lacking antecedent basis should be changed to "said dielectric layer".

► With respect to claim 22,

it is not clear that "said polysilicon lines" refers to "said n-type polysilicon lines" or "said p-type polysilicon lines".

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanhha Pham whose telephone number is (571) 272-1696. The examiner can normally be reached on Monday and Thursday 9:00AM - 9:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2813

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thanhha Pham
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